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Complete Accepted: June 22, 1933.

## COMPLETE SPECIFICATION.

System of Separation between the Positive and the Negative  
Electrodes of Electric Dry-cells.

I, BRUTO LAURENTI, Doctor, of Via Riguccio Galluzzi 16, Florence, Italy, a subject of the King of Italy, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

It is a well-known fact that one of the most frequent causes of the polarization of dry or semi-dry cells is the direct contact between the negative electrode, which forms the outer casing of the cell, and the electrolyte situated within the casing.

It is also well known that in a small cell the space occupied by the electrode is small and is, therefore, unable to accommodate means such as glass, or enamel cylinders which are adapted to separate the two electrodes. Further the use of such separators requires skilled workmanship which considerably increases the production cost of these cells.

It has already been proposed to provide dry cells in which the electrolyte is separated from the outer electrode by means of a thin layer of gelatine or the like, such layer being either applied to the exterior of the sack holding the electrolyte or the interior of the outer electrode.

It is an object of the present invention to improve the method of forming such separating layers, and to this end I provide a method of producing a separating layer between the two electrodes of a dry cell, wherein said layer is formed by pouring molten gelatine into the outer electrode distributing said gelatine over its inner surface, and subsequently cooling it so as to form a layer on said surface.

The gelatine used to form the said layer may be rendered insoluble either before or after that layer has been formed.

The present invention will now be described with reference to the accompanying drawing, which shows a dry-cell of the Leclanché type.

*a* is the outer zinc electrode or con-

tainer which serves as the negative pole of the cell and *b* is the central electrode contained in a bag or the like. The electrolyte and depolariser are also contained in said bag. The bag is separated from the inside of the outer electrode *a* by means of a thin layer of gelatine *c*. This layer of gelatine is formed by pouring a sufficient quantity of gelatine, which has been heated so as to be in the liquid state, into the container, and distributing the liquid gelatine over the inner surface of the container. The gelatine is then allowed to cool so that a uniform layer of gelatine adheres to said inner surface. The gelatine is treated so as to be insoluble and the cell finished in the usual manner.

The layer of gelatine does not interfere with the electric conductivity of the cell; neither is there any alteration in the moistness of the electrolyte which is necessary for the cell to work, in fact the moisture causes the layer of gelatine to swell up so that it occupies alone or together with the electrolytic paste all the available space between the positive electrode and the outer container.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. Method of producing a separating layer between the two electrodes of a dry cell, wherein said layer is formed by pouring molten gelatine into the outer electrode distributing said gelatine over its inner surface, and subsequently cooling it so as to form a layer on said surface.

2. Dry cell, comprising a separating layer between the two electrodes, made as claimed in claim 1.

3. Dry cell as claimed in claim 2, wherein the gelatine is made insoluble before it is used to coat the said surface.

4. Dry cell as claimed in claim 2, wherein the gelatine is made insoluble after the formation of the layer.

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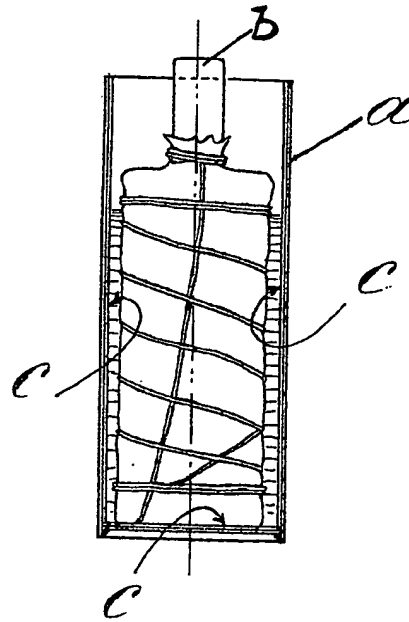
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Dated this 30th day of August, 1932.

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*[This Drawing is a full-size reproduction of the Original.]*

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